

## **BOX TRAP**

### **BACKGROUND AND SUMMARY OF THE INVENTION**

5       The present invention relates to a box trap and, more particularly, to a detachable box trap that can be arranged in a flat manner to reduce its packing size and delivery space.

Various box traps are well known. These conventional box traps are  
10 commonly not detachable, not convenient for carrying or storage. Because of being not detachable, conventional box traps require much packing material, and occupy much storage space during delivery.

The present invention has been accomplished under the circumstances  
15 in view. It is therefore the main object of the present invention to provide a box trap, which is detachable. According to the present invention, the box trap comprises a bottom panel, a left panel pivoted to the left side of the bottom panel, a right panel pivoted to the right side of the bottom panel, a rear panel pivoted to the rear side of the left panel and detachably fastened to the rear side  
20 of the right panel by screws and nuts, a top panel pivoted to the top side of the left panel and detachably fastened to the top side of the right panel by screws and nuts, a front panel pivoted to the top panel and turnable between the close position and the open position, a detachable actuating frame pivoted to the bottom panel, and a linking rod coupled to the actuating frame and adapted to  
25 hold the front panel in the open position and to let the front panel move to the

close position upon an action of the actuating frame triggered by an animal entering the box trap.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

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Figure 1 is a perspective view showing the open status of the box trap according to the present invention.

10 Figure 2 is similar to Figure 1 but showing the meshed structure removed from the box trap.

Figure 3 is another perspective view of the box trap when viewed from another angle.

15 Figure 4 is similar to Figure 3 but showing the meshed structure removed from the box trap.

Figure 5 is another perspective view of the preferred embodiment of the present invention, showing the closed status of the box trap.

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Figure 6 is similar to Figure 5 but showing the meshed structure removed from the box trap.

#### **DETAILED DESCRIPTION OF THE INVENTION**

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Referring to Figures 1~6, a box trap in accordance with the present

invention is shown comprised of a bottom panel **1**, a left panel **2**, a right panel **3**, an actuating frame **4**, a linking rod **5**, a front panel **6**, a rear panel **7**, and a top panel **8**.

5       The bottom panel **1** is a meshed framework comprising a substantially rectangular open frame **11** formed of a metal wire rod, a plurality of barrels **111** aligned at one long side, namely, the left long side of the rectangular open frame **11** for the coupling of the left panel **2**, and a plurality of barrels **112** aligned at the other long side, namely, the right long side of the rectangular open frame **11**  
10      for the coupling of the right panel **3**.

The left panel **2** is a meshed framework comprising a substantially rectangular open frame **21**, which has one long side, namely, the bottom long side **200** pivotally coupled to the barrels **111** of the bottom panel **1** and the other  
15      long side, namely, the top long side **211** pivotally coupled to the top panel **8** (see Figure 4), a plurality of barrels **212** aligned at one short side, namely, the rear short side for the coupling of the rear panel **7**, an upright bottom eye lug **213** disposed at the bottom long side **200** near the rear side and defining a through hole **2131** (see Figure 4), and a top locating block **215** downwardly extended  
20      from the top long side **211** on the middle and defining a through hole **2151**.

The right panel **3** is a meshed framework comprising a substantially rectangular open frame **31**, a plurality of barrels **311** aligned at one long side, namely, the bottom long side and respectively pivotally coupled to the barrels  
25      **112** at the right long side of the rectangular open frame **11** of the bottom panel **1**

by pivot pins 110, a plurality of top eye lugs 312 aligned at the other long side, namely, the top long side and respectively connected to the top panel 8, a plurality of rear eye lugs 310 aligned at one short side, namely, the rear short side and respectively connected to the rear panel 7, an upright bottom eye lug 5 316 disposed at the bottom long side near the rear side and defining a through hole 3161, and a top locating block 318 downwardly extended from the top long side on the middle and defining a through hole 3181.

A headed rod member 319 is inserted through the through hole 2151 of 10 the top locating block 215 of the left panel 2 and the through hole 3181 of the top locating block 318 of the right panel 3, and then fastened up with a fastening member, for example, a cap nut 3192.

A headed rod member 214 is inserted through the through hole 2131 of 15 the upright bottom eye lug 213 of the left panel 2 and the through hole 3161 of the upright bottom eye lug 316 of the right panel 3, and then fastened up with a fastening member, for example, a cap nut 317.

The actuating frame 4 comprises a barrel 41 transversely disposed at 20 the rear side and pivotally coupled to the rod member 214 between the upright bottom eye lug 213 of the left panel 2 and the upright bottom eye lug 316 of the right panel 3, a substantially  $\sqcap$ -shaped handle 42, which two bottom free ends respectively affixed to the actuating frame 4 by fastening devices 40, and a top eye lug 421 disposed at the top side of the  $\sqcap$ -shaped handle 42 on the middle 25 and fastened to the linking rod 5.

The linking rod 5 has a rear end 51 inserted through the top eye lug 421 of the actuating frame 4 and fastened thereto with a fastening member, for example, a cap nut 422, a middle part 52 coupled to the top panel 8, and a rear end terminating in a hook 53 hooked on a part of the top panel 8.

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The front panel 6 is a meshed framework, comprising a substantially rectangular open frame 61, a plurality of eye lugs 611 aligned at one short side, namely, the top short side and respectively pivotally coupled to the rod member 319 between the top locating block 215 of the left panel 2 and the top locating block 318 of the right panel 3, a transverse rod 62 connected between the two opposite long sides on the middle, two retainer rods 63 respectively pivotally coupled to the two ends 621 of the transverse rod 62 and obliquely upwardly extended through the top panel 8 and terminating in a guide portion 631 and a hooked portion 632 above the guide portion 631, and a locating ring 64 provided at the transverse rod 62 on the middle and adapted to receive the hook 53 of the linking rod 5.

The rear panel 7 is a meshed framework, comprising a substantially rectangular open frame 71, a plurality of barrels 711 aligned at one long side, namely, the left long side and respectively pivotally coupled to the barrels 212 of the left panel 2 by pivot pins 210, and a plurality of eye lugs 72 aligned at the other long side, namely, the right long side. The eye lugs 72 each define a through hole 721 respectively connected to the rear eye lugs 310 of the right panel 3 by a respective screw 314 and a respective nut 315.

The top panel **8** is a meshed framework, comprising a substantially rectangular open frame **81**, a plurality of barrels **811** aligned at one long side, namely, the left long side and pivotally coupled to the top long side **211** of the left panel **2**, a plurality of eye lugs **821** aligned at the other long side, namely,  
5 the right long side and respectively connected to the top eye lugs **312** of the right panel **3** by screws **3131** and nuts **3132**, a hook **80** suspended on the middle and hooked on a middle part **52** of the linking rod **5**, two top lugs **83** disposed on the middle, a carrying handle **84** pivoted to the top lugs **83**, and two front rings **85** disposed at the ends of one short side, namely, the front short side and  
10 adapted to guide movement of the retainer rods **63** of the front panel **6**.

When a squirrel, wild dog, or any of a variety of animals entered the box trap and stepped on the actuating frame **4**, the actuating frame **4** is rotated about the rod member **214** to force the handle **42** to push the linking rod **5** forwards, thereby causing the hook **53** to be disconnected from the locating ring **64** of the front panel **6**. At this time, the front panel **6** is forced by its gravity weight to turn about the rod member **319** from the open position shown in FIGS. 1~4 to the close position shown in FIGS. 5. and 6, to stop the caught animal from running out of the box trap. At the same time, the hooked portions **632** of  
15 the retainer rods **63** are respectively hooked in the front rings **85** of the top panel **8** to lock the front panel **6** to the top panel **8** in the close position.

When not in use, the fastening members **3131**, **3132**, **314**, **315**, **40**, **422**,  
20 **317**, **319** are removed from the box trap, and then the box trap is collapsed and  
25 arranged in a flat manner to reduce its storage space for delivery.

Further, the linking frame 4 has pairs of mounting holes 43 for the mounting of the two bottom free ends of the handle 42 selectively. Therefore, the linking frame 4 can be selectively installed in the box trap in one of a series of tilting angles subject to the type of animals to catch.

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A prototype of box trap has been constructed with the features of Figures 1~6. The box trap functions smoothly to provide all of the features discussed earlier.

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Although a particular embodiment of the invention has been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the invention. Accordingly, the invention is not to be limited except as by the appended claims.